

**U.S. ENVIRONMENTAL PROTECTION AGENCY
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**



DATE: August 7, 2001

SUBJECT: Review, Kerr-McGee "Surface Gamma Survey and Diagnostic Sampling" at DuSable Park, Chicago, Illinois

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I reviewed the above document and have the following comments.

- The survey seems to have focused on the three anomalies we identified.
- Once the most elevated areas were identified, no downhole logging was done. This does not help us determine the subsurface profile and at what depth the peak soil concentrations were found. We do not know if the anomaly peaks represent limited or large deposits.
- The uppermost vegetated area was separated from the soil taken for analysis so that, if contamination was at the surface, it was not measured.
- The soil was removed with a shovel rather than with a bulb planter or some other standardized tool. The standardized tool would have given a clearer description of where the soil came from.
- The soil sample removed was about 4 - 8 pounds or about 1- 2 liters (1 - 2 quarts). This is a reasonable size for gamma spectrometric measurements.
- The analyses were based on the lead-214 and actinium-228 gamma emissions. These are the ones generally used in the past.

- Area A gamma measurements went from 4900 counts per minute (cpm) at the surface to 8100 cpm in the hole (about 60% higher). Area B went from 6100 cpm to 17,000 cpm (about 3 times higher). Area C went from 4400 cpm to 10,100 cpm (about 2 times higher). Based on the change in Area A, it appears that there is a significantly higher increase in count rate with depth in Area B. To a lesser extent this is shown in Area C. Downhole gamma logging would have helped for us to judge whether this is an indication of buried material or not.

As we have agreed before, it would have helped us much if we had been present when this project was done. As presented, the largest drawback is that we have no sense of the subsurface profile of radioactivity so that we do not know if the measured soil concentrations represent peaks or just whatever was in the top foot. The unequal increases in count rate with depth in Areas B and C versus Area A may indicate buried material. Again, downhole logging could have helped us understand this better. Also, measured soil concentrations may not be peaks because the surface soil around the vegetation was isolated from the soil that was measured.

This data gives us some information but not enough to know if there are buried deposits at the three anomalies.